



U.S. Department
of Transportation

Pipeline and
Hazardous Materials
Safety Administration

COMPETENT AUTHORITY CERTIFICATION
FOR A TYPE FISSILE
RADIOACTIVE MATERIALS PACKAGE DESIGN
CERTIFICATE USA/9329/AF-96, REVISION 1

East Building, PHH-23
1200 New Jersey Avenue Southeast
Washington, D.C. 20590

This certifies that the radioactive material package design described has been certified by the Competent Authority of the United States as meeting the regulatory requirements for a Type AF packaging for fissile radioactive material as prescribed in the regulations of the International Atomic Energy Agency¹ and the United States of America².

1. Package Identification - Model No. S300.
2. Package Description and Authorized Radioactive Contents - as described in U.S. Nuclear Regulatory Commission Certificate of Compliance No. 9329, Revision 1 (attached). Contents are limited to a single PuBe special form capsule meeting either USA/0696/S-96, Revision 2 or USA/0695/S-96, Revision 2.
3. Criticality - The minimum criticality safety index is 0. There is no restriction on the number of packages per conveyance.
4. General Conditions -
 - a. Each user of this certificate must have in his possession a copy of this certificate and all documents necessary to properly prepare the package for transportation. The user shall prepare the package for shipment in accordance with the documentation and applicable regulations.
 - b. Each user of this certificate, other than the original petitioner, shall register his identity in writing to the Office of Hazardous Materials Technology, (PHH-23), Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, Washington D.C. 20590-0001.
 - c. This certificate does not relieve any consignor or carrier from compliance with any requirement of the Government of any country through or into which the package is to be transported.

¹ "Regulations for the Safe Transport of Radioactive Material, 1996 Edition (Revised), No. TS-R-1 (ST-1, Revised)," published by the International Atomic Energy Agency(IAEA), Vienna, Austria.

² Title 49, Code of Federal Regulations, Parts 100-199, United States of America.

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- d. This certificate provides no relief from the limitations for transportation of plutonium by air in the United States as cited in the regulations of the U.S. Nuclear Regulatory Commission 10 CFR 71.88.
 - e. Records of Quality Assurance activities required by Paragraph 310 of the IAEA regulations¹ shall be maintained and made available to the authorized officials for at least three years after the last shipment authorized by this certificate. Consignors in the United States exporting shipments under this certificate shall satisfy the applicable requirements of Subpart H of 10 CFR 71.
5. Marking and Labeling - The package shall bear the marking USA/9329/AF-96 in addition to other required markings and labeling.
6. Expiration Date - This certificate expires on November 30, 2011.

This certificate is issued in accordance with paragraph 814 of the IAEA Regulations and Section 173.471 and 173.472 of Title 49 of the Code of Federal Regulations, in response to the May 15, 2007 petition by Department of Energy, Washington, DC, and in consideration of other information on file in this Office.

Certified By:



Jun 01 2007
(DATE)

 Bob Richard
Deputy Associate Administrator for Hazardous Materials Safety

Revision 1 - Issued to endorse U.S. NRC Certificate USA/9329/AF-96 Revision 1.

NRC FORM 618 (8-2000) 10 CFR 71		U.S. NUCLEAR REGULATORY COMMISSION						
CERTIFICATE OF COMPLIANCE FOR RADIOACTIVE MATERIAL PACKAGES								
1. a. CERTIFICATE NUMBER <div style="text-align: center;">9329</div>	b. REVISION NUMBER <div style="text-align: center;">1</div>	c. DOCKET NUMBER <div style="text-align: center;">71-9329</div>	d. PACKAGE IDENTIFICATION NUMBER <div style="text-align: center;">USA/9329/AF-96</div>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="padding: 2px;">PAGE</th> <th style="padding: 2px;">PAGES</th> </tr> <tr> <td style="text-align: center; padding: 2px;">1</td> <td style="text-align: center; padding: 2px;">OF 3</td> </tr> </table>	PAGE	PAGES	1	OF 3
PAGE	PAGES							
1	OF 3							

2. PREAMBLE

- a. This certificate is issued to certify that the package (packaging and contents) described in Item 5 below meets the applicable safety standards set forth in Title 10, Code of Federal Regulations, Part 71, "Packaging and Transportation of Radioactive Material."
- b. This certificate does not relieve the consignor from compliance with any requirement of the regulations of the U.S. Department of Transportation or other applicable regulatory agencies, including the government of any country through or into which the package will be transported.

3. THIS CERTIFICATE IS ISSUED ON THE BASIS OF A SAFETY ANALYSIS REPORT OF THE PACKAGE DESIGN OR APPLICATION

- | | |
|--|---|
| a. ISSUED TO (Name and Address)
U.S. Department of Energy
Washington, D.C. 20585 | b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION
U.S. Department of Energy
Application dated August 23, 2006,
as supplemented. |
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4. CONDITIONS

This certificate is conditional upon fulfilling the requirements of 10 CFR Part 71, as applicable, and the conditions specified below.

5.

a. Packaging

- (1) Model No.: S300
- (2) Description

The Model No. S300 package is a cylindrical container that is approximately 89 centimeters (35 inches) in overall height and 60 centimeters (23 inches) in overall diameter. The Model No. S300 is comprised of an overpack, pipe component, and a shielding insert. The Model No. S300 is designed to transport a single plutonium-beryllium (PuBe) special form capsule (SFC). The maximum gross weight of the package is 217.7 kilograms (480 lbs).

The overpack design utilizes a standard 55-gallon drum as the outer container. A standard bolted clamping ring secures the drum lid to the drum body. Within the drum body is a rigid polyethylene liner (body and lid). Lid liner and lid are pierced and the drum lid is fitted with a filter vent. Within the liner is cane fiberboard dunnage and a sheet of plywood to provide shock absorption for the pipe component.

The pipe component consists of a stainless steel cylindrical pipe welded to a stainless steel flat cap at the bottom end and a bolted pipe flange at the other end. The pipe component is closed with a stainless steel flat lid attached to the flange with 12 stainless steel bolts. A filter vent is installed in the lid. The flange-to-lid seal is either a butyl or ethylene propylene elastomeric o-ring.

The shielding insert is located within the pipe component. The shielding insert is made from solid high density polyethylene plastic. Within the shielding insert is a cylindrical opening sized to accommodate the SFC.

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(3) Drawings

The packaging is constructed in accordance with Areva drawing No. 60999-SAR, sheets 1 through 3, Revision 0, S300 Packaging SAR Drawing.

b. Contents

(1) Type and form material

Plutonium-239 (Pu-239) as PuBe sources meeting the requirements of special form sources and limited to:

- (a) The SFC Model II SFC - IAEA Certificate of Competent Authority Special Form Radioactive Materials Certificate Number USA/0696/S-96, Revision 2, issued by the U.S. Department of Transportation (DOT).
- (b) The Model III SFC - IAEA Certificate of Competent Authority Special Form Radioactive Materials Certificate Number USA/0695/S-96, Revision 2, issued by the DOT.

(2) Maximum quantity of material per package

One SFC, containing a maximum quantity of Pu-239 as shown below.

Non-Exclusive Use Shipment		Exclusive Use Shipment	
Model II SFC	Model III SFC	Model II SFC	Model III SFC
206 grams Pu-239	160 grams Pu-239	350 grams Pu-239	160 grams Pu-239

c. Criticality Safety Index 0.0

6. Transport by air is not authorized.

7. In addition to the requirements of Subpart G of 10 CFR Part 71:

- a. Each package shall be prepared for shipment and operated in accordance with the "Package Operations," in Chapter 7 of the application.
- b. Each package shall be tested and maintained in accordance with the "Acceptance Tests and Maintenance Program," in Chapter 8 of the application.

8. The package authorized by this certificate is hereby approved for use under the general license provisions of 10 CFR 71.17.

9. Expiration date: November 30, 2011.

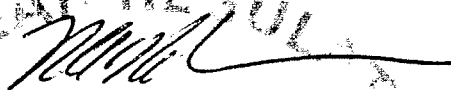
NRC FORM 618 (8-2000) 10 CFR 71		U.S. NUCLEAR REGULATORY COMMISSION			
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REFERENCES

U.S. Department of Energy application dated August 23, 2006.

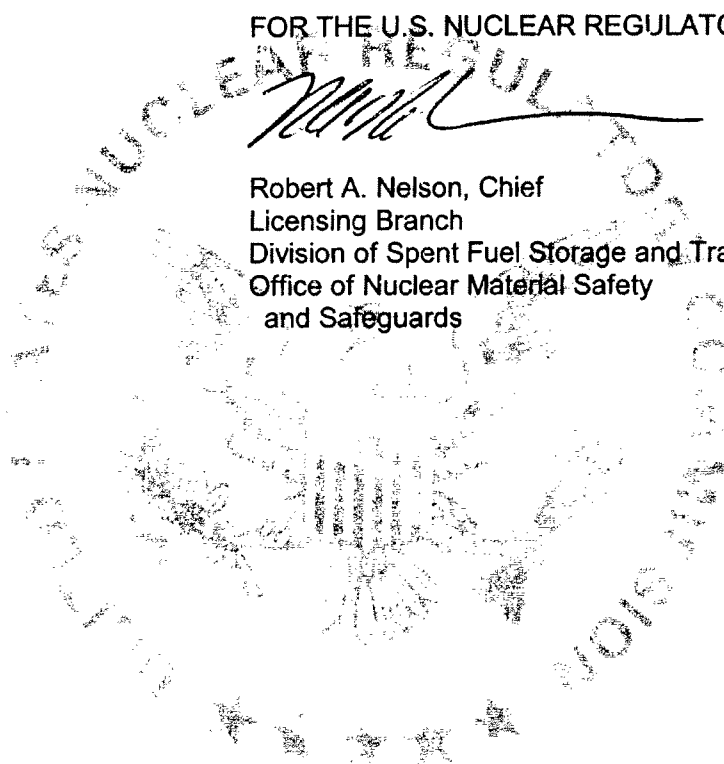
Supplement dated: November 8, 2006, and April 19, 2007.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION



Robert A. Nelson, Chief
Licensing Branch
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety
and Safeguards

Date: April 26, 2007





U.S. Department
of Transportation

Pipeline and
Hazardous Materials
Safety Administration

East Building, PHH-23
1200 New Jersey Avenue Southeast
Washington, D.C. 20590

CERTIFICATE NUMBER: USA/9329/AF-96, Revision 1

ORIGINAL REGISTRANT(S):

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Washington, 20585
USA

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Manager, Packaging Certification Program
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REGISTERED USER(S):

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